[illegible] ers. This eliminated practically all the primary schools outside Beirut and Tripoli. Questionnaires were sent to a few of the selected institutions,* but in the majority of cases enumerators were sent to do the actual compilations from the school records since the concept of permanent residence appeared to create a difficult problem for the staff of the institutions.

The answers received were fairly satisfactory. In most cases, it was easy for the school authorities to give an accurate estimate of their students' expenditures as they had themselves, in consultation with the parents, fixed their pupils' money needs. A problem arose, however, from the fact that students' expenditures are usually calculated on the basis of an academic year, i.e., from October through June. To meet this problem it has been decided to treat expenditures during [illegible] as for [illegible], and those for [illegible] as for [illegible]. In the first place, it is ordinary that parents pay to the school, at the beginning of the academic year, all tuition and other expenses of their children for the whole year in advance. In the second place, there has been little variation from year to year in foreign enrollment. Any other method of re-allocating expenses, say by month or semester, would have been no less subject to errors.

Based on the answers to the questionnaires, the total number of foreign (non-resident) students has been estimated at [illegible] in [illegible] and at [illegible] in [illegible]. Students' expenditures during these periods were L.L. [illegible] million and L.L. [illegible] million respectively (cf. Table [illegible]).

[illegible] (b) **Hospitals.** Questionnaires were sent out to [illegible] hospitals requesting information on foreign (non-resident) patients.* These questionnaires were all followed up by personal interviews with the hospital authorities. Satisfactory answers were received from [illegible] hospitals. The only problem was that in most cases the hospital records did not permit the identification of foreign out-patients, i.e., those who came for treatment, but did not stay at the hospital. On the contrary, the records do not distinguish between "residents" and "non-residents". Nothing could be done to correct this omission. On the basis of answers received, earnings of hospitals from foreign in-patients were estimated at L.L. [illegible] million in [illegible] and L.L. [illegible] million in [illegible] (cf. Table [illegible]).

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* Cf. Appendix [illegible].

* Cf. Appendix [illegible].

(4) Tourism. As noted above, this term is here used as a catch-all for all remaining forms of foreign travel.

To estimate earnings under this heading, a questionnaire was sent in the name of the Commissariat of Tourism to the main hotels in Beirut, similar to that sent to the summer resort hotels[1]. Beirut alone was covered, as virtually all arrivals into and departures from Lebanon are via Beirut. The questionnaire tries to ascertain the number of tourists, including businessmen etc., and their length of stay in the country. The information requested was for [illegible] from which it was hoped to infer estimates for [illegible]. Of the [illegible] hotels that were approached, all but one answered. Attempts were then made to try to ascertain from the managers their clients' expenditures outside the hotel[2]. On the basis of these answers [illegible] clients are estimated to have visited the reporting hotels in [illegible], their total expenditures being at L.L. [illegible] million (cf. Table [illegible]). According to the Commissariat of Tourism, the total number of tourists (excluding estivants) in [illegible] was over [illegible]. An extrapolation of the figure obtained in the survey to cover all tourists would give total expenditures in that year of L.L. [illegible] million. Moreover, assuming the same level of expenditures in [illegible], the reported [illegible] tourists in that year would have spent L.L. [illegible] million.

To these estimates should be added the expenditures of tourists in transit, i.e., those who spend less than 72 hours in the country, en route to their final destinations. Their number was [illegible] in [illegible] and [illegible] in [illegible]. On the assumption that they spent on local transportation, food, gifts, etc., on the average L.L. [illegible] per person during their whole stay (the average is probably [illegible] hours) their total expenditures would have been L.L. [illegible] million in [illegible] and L.L. [illegible] million in [illegible], thus making overall tourist expenditures L.L. [illegible] million in [illegible] and L.L. [illegible] million in [illegible].

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[1] Cf. Appendix [illegible].

[2] Cf. footnote [illegible] on page [illegible].

water supplies are not only inadequate and unsafe, they are also unhandy. In all cases the source is outside of the village and may be a mile or more away. This necessitates a long walk on the part of the women who carry the water in jugs to their homes. 312

One of the major items included in plans for the improvement project is that of furnishing domestic water to the villages. A well has been drilled near [illegible] by the Technical Cooperation Service and it is planned to pump from it to a reservoir to be built on a high point. From here a pipe line distribution system will furnish water to fountains in each village. 312 [illegible]

In each of the five project villages, the persons interviewed stated that the nearest doctor, nurse, or hospital is located in [illegible]. Only [illegible] reported having no midwife. [illegible] reported two midwives while the other three villages each has one midwife living in the village. It is beyond the province of this report to report upon the qualifications or training of the local midwives. [illegible]

Schools

The information on village schools in the project area was secured from the local teachers (Table [illegible]). All of the project villages have government-run elementary schools, with the exception of [illegible]. [illegible] has no schools while [illegible] has a privately-run school as well as the government elementary school. While the school in [illegible] has two rooms, the remaining ones are simply one-room affairs. None of the villages offer education beyond the elementary level. Such higher education, however, is available at [illegible] or [illegible]. [illegible]

The number of pupils in each school varies from [illegible] in the private school of [illegible] to [illegible] in the [illegible] government elementary school. This latter school is the only one reporting two teachers. The one classroom is usually small and the children sit, closely packed, at their desks. It is interesting to note the breakdown of the students according to sex. While [illegible] students attend the five schools, only thirteen of these are girls. The Shi'ite Moslems do not encourage their daughters to attend school. They feel that it is a hindrance to a happy marriage and often encourages disobedience to one's elders. [illegible]

In a former [illegible] there [illegible] Primitive maternity and Child

welfare clinic, under the charge of a [illegible]. The nearest doctor was [illegible] away. [illegible] the villagers [illegible]. A well had been constructed [illegible] from the village [illegible] a good condition. [illegible] told us that the Lebanese Government [illegible] in the activities of the centre, [illegible] for malaria control. [illegible] was to start a demonstration centre in community welfare which would spread [illegible] over the whole country. [illegible] His reply was that [illegible] for foreigners by foreigners and that, in his view, [illegible] Lebanese in conception and operation would alone suffice.

871 7. [illegible] Centre. On Friday, the [illegible] of December, the Mission visited this centre, [illegible] a very enthusiastic Lebanese graduate of the American University of Beirut [illegible] village reconstruction programme which was started in [illegible] of the American Presbyterian Mission. An explanatory memorandum (Appendix [illegible]) [illegible] his philosophy. This Mission still gives some financial support [illegible] per annum but this amount is insignificant, compared with the cost of running the various activities. The staff has, therefore, to [illegible] in order to maintain the institution.

The following are some of the activities of the centre:

1. Creche for infants.
2. Day school for boys.
3. Boarding school for girls.
4. Experimental garden: vegetables, fruit trees.
5. Breeding of rabbits and chickens to increase food supply.
6. Recreation centre (pictures, lectures, etc.) for the villagers.

Since the centre possesses only modest resources, all these activities are necessarily conducted on a rather small scale. [illegible] from the pupils. So far, lack of funds has prevented any activities in the fields of medicine and hygiene, but [illegible] told us that [illegible] would be engaged as soon as the necessary funds became available.

The various buildings of the centre have been erected with the aid of the school boys. The education, both of boys and girls, includes [illegible] practical work: carpentry, agriculture and horticulture for boys, [illegible] first-aid and sewing for girls. The need for [illegible] school books was pointed out by the teacher, a young graduate from the [illegible].

It seemed to us that the relations of the centre with the neighbouring villages were good, [illegible] of the recreation centre. The villagers are, however, [illegible]

[illegible]

Health Services has recently been established in the Bureau of Municipalities and Town Planning, also in the Ministry of the Interior. This division advises on local public health matters in the cities and the towns, including Beirut, all of which come under the jurisdiction of this Ministry.

The Ministry of National Education conducts limited health services in the government schools. The Ministry of Public Works undertakes the construction of water supplies and sanitary facilities in consultation with the Ministry of Public Health. The Ministry of Social Affairs supervises the health standards in industry while the Ministry of National Economy has divisions for the control of adulteration of foodstuffs and for the surveillance of conditions in the export trade.

Numerous voluntary agencies are engaged in social welfare and related health activities among the different social and religious communities. The Lebanese Red Cross carries on an extensive program which is partially subsidized by the government. It maintains [illegible] dispensaries in Beirut and [illegible] in the provinces, as well as a mobile dispensary in South Lebanon. In addition, it supports infant welfare services in all sections of the country, and manages with the [illegible] [illegible] for Lebanese children and the Palestinian refugees in Beirut and Saida. It also operates a school for nurses in Beirut.

The National Union of Child Welfare represents [illegible] affiliated organizations which conduct welfare or health work among the children of the diverse religious and racial groups. It endeavors to co-ordinate the activities of its members and to provide advice or financial assistance as required. The Union is subsidized by the Ministry of National Education, but it functions also in association with the Ministry of Public Health. It has recently sponsored the construction of a center for the care of crippled children on the outskirts of Beirut.

The [illegible] Company [illegible] carries on an active program for the pro-

[illegible]

and conducts malaria control operations in the vicinity of refugee centers.

MEDICAL INSTITUTIONS

Hospitals and Dispensaries. According to the official statistics for [illegible], there were [illegible] hospitals, including sanatoria, in Lebanon. These institutions had an aggregate capacity of about [illegible] beds, or slightly less than [illegible] beds per 1,000 population. Fifty-six hospitals with a total of [illegible] beds were under private management, and [illegible] hospitals with a total of [illegible] beds were operated by foreign agencies. Eight hospitals, with a total of about [illegible] beds, were listed by the Ministry of Public Health. They consisted of provincial hospitals of approximately [illegible] beds each at Beit-eddin (Mount Lebanon), Zahle (Bekaa), Tripoli (North Lebanon) and Saida (South Lebanon), and [illegible] hospitals in Beirut, a general hospital of [illegible] beds, a contagious disease hospital of [illegible] beds, a venereal disease hospital of [illegible] beds and a quarantine hospital of [illegible] beds. The provincial hospitals at Tripoli and Saida were not completed, however, in [illegible]. In addition, the government contracted for the use of [illegible] beds in private or foreign-operated institutions, so that roughly [illegible] beds were available through the Ministry.

Special facilities included with the above hospitals were a tuberculosis sanatorium of [illegible] beds at Hammana, three smaller tuberculosis sanatoria of [illegible] to [illegible] beds each, a mental hospital with [illegible] beds at Asfourieh and a chronic disease hospital and asylum with about [illegible] beds at Deir el Saleb. All are conducted by religious or philanthropic organizations, Lebanese or foreign. The Ministry does not operate tuberculosis or mental hospitals, but subsidizes about [illegible] beds in private institutions for the care of tuberculous patients and [illegible] beds for mental cases. Within the last few years an ophthalmic hospital of [illegible] beds has been constructed by the government at Tebnin, in South Lebanon.

The hospitals affiliated with the medical schools of the two universities in Beirut are

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[illegible] prominent among the foreign-operated institutions. A hospital is connected with the American University of Beirut, which provides 210 beds, including 15 to 20 each in pediatric and maternity sections. The Faculté Française de Médecine of the Université Saint-Joseph maintained two hospitals—a general hospital of 200 beds and a maternity hospital of 45 beds—until recently, when the direction of both institutions was transferred to the French Cultural Mission at Beirut. Smaller institutions are conducted by French and Greek religious orders. The Kennedy Memorial Hospital in Tripoli, which is under the Board of Foreign Missions of the Presbyterian Church in America, has a capacity of 125 beds. The Iraq Petroleum Company operates a 40-bed hospital for the care of its Lebanese and foreign personnel in Tripoli, and the Trans-Arabian Pipeline Company, a 10-bed hospital in Beirut.

[illegible] Outpatient dispensaries are associated with the government hospitals and with the larger independent institutions. In 1951, the Ministry of Public Health maintained a central polyclinic in Beirut, 17 rural dispensaries and a special tuberculosis clinic. The municipality of Beirut also financed a polyclinic in the city. The Lebanese Red Cross ran 16 permanent dispensaries, including 3 in Beirut, and 1 traveling clinic. A child health center, with comprehensive preventive services, has been conducted in connection with the American University hospital since 1937, while comparable centers are supported by the Evangelistic Committees in Beirut and Saida.

[illegible] In 1953, a maternal and child health teaching and demonstration center was established at Beirut by the Ministry, in connection with the World Health Organization and the United Nations International Children's Emergency Fund. Dispensaries are operated by the United Nations Relief and Works Agency in the various refugee camps.

[illegible] Laboratories. Up to 1950 there was no central public health laboratory in Lebanon.

p. 130(d)

Higher rates were found in other groups. Among the nurses in the 2 university hospitals, the rates were [illegible] per cent at [illegible] years of age and [illegible] per cent at [illegible] years of age. Tests among textile workers showed a progressive increase in the reaction rate, from [illegible] per cent at [illegible] years of age to [illegible] per cent at [illegible] years of age. In the military personnel tested, the reaction rate reached [illegible] per cent at [illegible] years of age.[7] Since the departure of the International teams in [illegible], the tuberculin testing and BCG inoculation program has been carried on in conjunction with the special tuberculosis dispensaries.

The facilities for the diagnosis and the treatment of tuberculosis have been augmented within the last few years, but they are still inadequate. Taking advantage of the unusually favorable climatic conditions, several tuberculosis sanatoria have been established in Lebanon, which attract patients from all the surrounding Arab countries. In [illegible], [illegible] sanatoria, with an aggregate capacity of [illegible] beds, were maintained by religious or philanthropic organizations. About [illegible] beds were subsidized by the Ministry of Public Health—[illegible] at Azounieh and the remainder in the larger sanatorium operated by a French mission at Bhannes. The entire quota of tuberculosis beds is not available for Lebanese patients, since private cases of other nationalities are accepted at all institutions. Due to the deficiency in diagnostic facilities, the majority of cases now referred to the sanatoria are in advanced stages of the disease. Since [illegible], the Ministry has opened special tuberculosis dispensaries, with X-ray facilities, in Beirut and Zahle and, more recently, in Tripoli and Saida. The Anti-Tuberculosis Campaign Society and the Lebanese Red Cross also carry on programs for the prevention of tuberculosis and support dispensary and treatment services.

Smallpox. Smallpox is endemic, and sporadic cases are reported almost annually. Vaccination against smallpox is compulsory, but enforcement is often incomplete in the rural frontier districts. A major epi-

p. [illegible](a)

[illegible]

Middle East

[illegible]

In some villages at least 80 per cent of the inhabitants are affected. The disease is encountered less frequently in the north, except in certain congested quarters of Beirut and Tripoli, which house large numbers of workers from the south. In most areas, a higher rate of infection prevails among the Moslem communities than among the Christians. According to the statistics of the Ministry of Public Health, the incidence has decreased appreciably since 1941. A total of 2,045 cases was reported in 1949, in contrast with over 4,000 cases in 1941. The recorded cases, however, represent a small fraction of the actual prevalence. In a study of roughly 100,000 cases from all parts of the country, undertaken by doctors from the American University of Beirut in 1936,[illegible] the infection rates were estimated at 40 per cent in South Lebanon, 13 per cent in the Bekaa, 10 per cent in North Lebanon and 5 per cent in Mount Lebanon. They averaged 3 per cent in Beirut district, but reached 33 per cent in some of the poorer quarters of the city.

Acute conjunctivitis is widespread from June to December, and particularly between August and October, when the flies are abundant. About two thirds of the cases are usually attributed to infection with *Haemophilus conjunctivitidis* (Koch-Weeks bacillus). A large proportion of the remainder are of pneumococcal origin. Cases of gonococcal conjunctivitis are relatively infrequent.

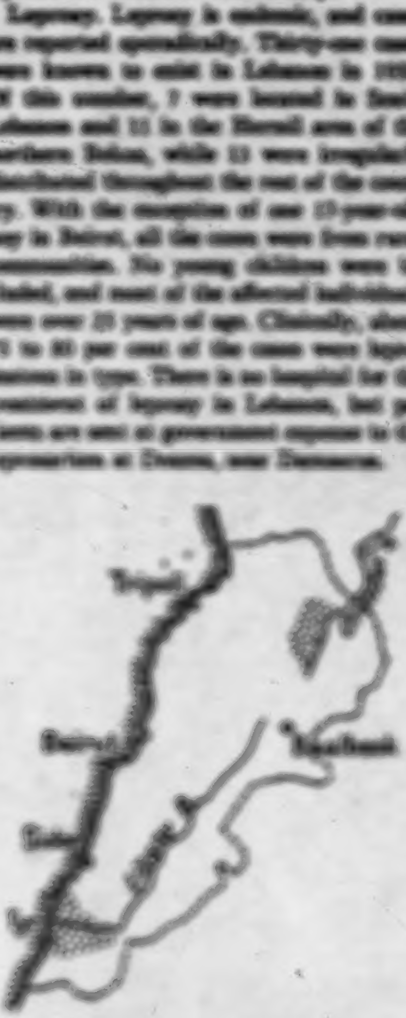
A special hospital for the treatment of trachoma and other eye diseases has recently been established by the health authorities at Tibnin, an important focus of trachoma in South Lebanon. Measures for the improvement of sanitary conditions are also being carried forward in many villages.

Diseases of the Skin. Mycotic infections, especially favus and ringworm of the scalp or the skin, are common. The majority of cases of dermatophytosis are caused by *Achorion schoenleini*, *Trichophyton violaceum* or *T. gypseum*. Lupus is sometimes seen in the dermatology clinics.

p. 108 (a)

712 Cases of impetigo are numerous, often
571 following lesions produced by the irritating
569 effects of the sun. Scabies and pediculosis
575 are encountered in the crowded sections of the cities and in the poorer rural villages. Both were widely distributed during the war years 1941-45, when the scarcity of soaps and clothing contributed to increased unhygienic conditions. Cases of human myiasis are observed occasionally.

564 Leprosy. Leprosy is endemic, and cases
[illegible] are reported sporadically. Thirty-one cases were known to exist in Lebanon in 1950. Of this number, 7 were located in South Lebanon and 11 in the Hermil area of the northern Bekaa, while 13 were irregularly distributed throughout the rest of the country. With the exception of one 13-year-old boy in Beirut, all the cases were from rural communities. No young children were included, and most of the affected individuals were over 20 years of age. Clinically, about 75 to 80 per cent of the cases were lepromatous in type. There is no hospital for the
[illegible] treatment of leprosy in Lebanon, but patients are sent at government expense to the leprosarium at Douma, near Damascus.



Leprosy in Lebanon. Areas of Greatest Prevalence

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[illegible]

Other Infections. Canine rabies is common, and human cases are observed from time to time. In each of the 4 years 1947-50, from 400 to 421 persons from Lebanon and Syria received prophylactic treatment for the prevention of rabies at the Institut Antirabique of the Faculté Française de Médecine at Beirut. Either the Semple or the Fermi type of vaccine was employed. From 1 to 4 deaths were recorded each year, usually among individuals who had been bitten by wild animals or who had delayed treatment. About 75 per cent of the persons registered within this period were bitten by dogs and 20 per cent by cats; the remainder by rats, wolves, hyenas and other animals.

Anthrax is enzootic among the sheep, and human infections occur occasionally. Sporadic cases of rat-bite fever are recorded.

Leptospirosis is not reported, but the infection is known to be enzootic among the local rats. Using a combination of staining, darkfield illumination and culture technics, *Leptospira icterohaemorrhagiae* was demonstrated in 8 out of 61 specimens of *Rattus norvegicus* trapped in Beirut in 1941.[illegible] Five rats of the species *R. rattus alexandrinus* were studied at the same time, but none was found to be infected.

Diseases Spread by Arthropods

Malaria. Malaria has long been a disease of major health and economic importance in Lebanon. As a result of insecticidal control programs, it has recently dropped from first to second place among the disease problems of the country. Nevertheless, at least one fifth of the inhabitants live in endemic or hyperendemic regions, and are potentially exposed to infection each year. The trend over the last decade has been downward; the official statistics suggest that the peak of prevalence occurred in 1942-43, coinciding with the military operations in the area and the influx of persons from other countries. The recorded cases, which represent a small fraction of the total, diminished from over 21,000 in 1942

p 125(c)

and Sidon were roughly comparable. In a series of 1,[illegible] complement fixation tests on miscellaneous human serums sent to the Wassermann laboratory of the University hospital, 7 per cent gave a positive reaction with Q fever antigen. 164

SUMMARY

Lebanon, formerly one of the French-mandated Levant states, has been an independent republic since 1943. It is a compact territory, with an estimated population in 1948 slightly in excess of [illegible] and a density of roughly [illegible] inhabitants per square mile. Unlike the surrounding Arab countries, the Christian and the Moslem elements of the population are almost equal in collective numerical strength and political importance. [illegible] 161 775

Responsibility for the health of the people resides in the Ministry of Public Health of the Lebanese government, which acts in co-operation with other ministries and numerous philanthropic and religious organizations. The public health and the medical care functions of the Ministry are directed from Beirut. The city is one of the leading medical centers of the Near and Middle East, with two university medical schools and associated hospitals. In 1948, there were [illegible] hospitals (including sanatoria) in the country, with an aggregate capacity of [illegible] beds, or approximately [illegible] beds per 1,000 population. Eight hospitals were maintained by the Ministry of Public Health, while [illegible] were conducted under private or philanthropic auspices and [illegible] by foreign organizations. In addition to the outpatient services of the hospitals, a central polyclinic, [illegible] rural dispensaries and [illegible] tuberculosis clinics were operated by the Ministry; a polyclinic by the municipal health department in Beirut; [illegible] dispensaries by the Lebanese Red Cross; and various units by other organizations. 657 774 785

Water supplies are derived from streams, springs or wells, and are usually abundant in the coastal region but often deficient in the interior. Treated municipal water sup- [illegible]

p. [illegible]